



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,529	02/17/2004	Stuart W. Daniel	2003-0689.01	2435
21972 7590 10/16/2007 LEXMARK INTERNATIONAL, INC. INTELLECTUAL PROPERTY LAW DEPARTMENT 740 WEST NEW CIRCLE ROAD BLDG. 082-1 LEXINGTON, KY 40550-0999			EXAMINER KHATRI, ANIL	
			ART UNIT 2191	PAPER NUMBER
			MAIL DATE 10/16/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/781,529

Applicant(s)

DANIEL ET AL.

Examiner

Anil Khatri

Art Unit

2191

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: *Updating Firmware on Imaging Device with Memory Device Interface.*

The use of the trademark Unix etc. has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Objections

Claims 19, 20 and 23 are objected to because of the following informalities: because use of double period “..” at end of sentence. Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Art Unit: 2191

Claims 1-33 are rejected under 35 USC 101 because they disclose a claimed invention that is an abstract idea as defined in the case *In re Warmerdam*, 33, F 3d 1354, 31 USPQ 2d 1754 (Fed. Cir. 1994).

Analysis: Claims 1-33 disclosed by the applicant as being a “method of updating firmware...”. Since the claims are each a series of steps to be performed on a computer the processes must be analyzed to determine whether they are statutory under 35 USC 101.

Examiner interprets that claims 1-33 are non-statutory because claim recites computer program which are program, per se i.e. the description or expressions of the program are not physical things nor are they statutory process as they do not act being performed. Computer programs do not define any structural and functional interrelationship between the computer program and other claimed aspect of the invention which permits the computer program's functionality could be realized. Therefore, computer program is merely a set of instructions capable of being executed by a computer, the computer program itself is not a process. Further, applicant submit no substance that how this updating will be processed without incorporating a processor, memory and medium.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-16, 22, 24-28 and 30-32 are rejected under 35 U.S.C. 102(e) as being anticipated by *Rothman et al* USPN 7,222,339.

Regarding claims 1, 15 and 30

Rothman et al teaches,

accepting a connection from the portable memory source at the second communication port (see abstract, firmware provided on each platform is loaded for operating system runtime availability. The firmware update process begins by issuing an update directive that includes firmware update data to a first platform. That platform then interacts with firmware running on other platforms to update the firmware for those platforms, wherein communications between the platforms is enabled via an out-of-band (OOB) communication channel or network. In one embodiment, OOB communications are facilitated by a hidden execution mode known as the System Management Mode (SMM), which has the ability to receive and respond to periodic System Management Interrupts (SMI) and execute corresponding SMI handlers configured to

Art Unit: 2191

support inter-platform communication in a manner that is transparent to operating systems running on the platforms. The method allows firmware to be updated across multiple platforms, such as server blades, using a single administrative action);

accessing files stored on the portable memory source (column 9, lines 24-36, ; During system initialization, firmware provided on each platform is loaded for operating system runtime availability. The process (from an administrators point of view) begins by providing a firmware update to a first server blade. That blade then interacts with firmware running on other blades to facilitate update of the firmware for those blades via corresponding variable data that are accessible via the Variable Services, wherein communications between the blades is facilitated via an out-of-band communication channel or network. Flowchart operations and logic according to one embodiment of the process are shown in FIG. 5, while corresponding operations and interactions between various components are schematically illustrated in FIGS. 6 and 7);and

updating the firmware with at least one of the files stored on the memory source (column 3, lines 44-54, in accordance with aspects of the invention, techniques are disclosed herein for updating firmware in clustered computing platform infrastructures, such as blade server environments, in a manner under which an administrator only needs to perform a single update process, regardless of the number of individual platforms that are updated. The techniques employ firmware-based functionality that provides management of the firmware update without having any

Art Unit: 2191

commensurate OS complicity. As such, the process may be performed in the same manner regardless of the operating system deployed on the platforms).

Regarding claims 2-4, 26 and 27

Rothman et al teaches,

recognizing the portable memory source upon connection with the second communication port (column 9, lines 13-20, The pre-boot/boot framework of FIG. 3 may be implemented to enable update of various firmware, including system firmware (i.e., firmware stored on main board 201) and add-in firmware (e.g., firmware associated with optional add-on components and peripheral devices, stored in NV rewritable memory devices 222 and 224). This is facilitated, in part, by API's published by respective components/devices during the DXE phase, and through use of the Variable Services runtime service).

Regarding claim 5

Rothman et al teaches,

searching the portable memory source for files (column 7, lines 51-60, in contrast to Boot Services 306, Runtime Services 308 are available both during pre-boot and OS runtime operations. One of the Runtime Services that is leveraged by embodiments disclosed herein is the Variable Services. As described in further detail below, the Variable Services provide services to lookup, add, and remove environmental variables from both volatile and

Art Unit: 2191

non-volatile storage. As used herein, the Variable Services are termed "generic" since they are independent of any system component for which firmware is updated by embodiments of the invention).

Regarding claims 6, 16, 22, 24 and 25

Rothman et al teaches,

files are all files that can be read by the imaging device (columns 12-13, lines 64-67 and lines 1-9, In some instances, an update may be fully effectuated via changes to configuration data for a corresponding component (e.g., firmware for a peripheral device, such as a disk drive), which are stored in an NV rewritable memory device. This is depicted by the process flow illustrated for API Z in FIG. 6. In other instances, the update is effectuated by copying data from an update image to the NV rewritable memory device, typically but not limited to overwriting all or a portion of the memory space for the device corresponding to a current firmware image. Accordingly, in these instances the update handler will further write an update image to a memory buffer, as depicted the process flows in FIG. 6 corresponding to API's X and Y).

Regarding claims 7, 8 and 10-12

Rothman et al teaches,

files are files containing only firmware updates (column 13, lines 41-62, In response to the reset, the operations of blocks 502 and 504 are performed in the manner discussed above. However, when the determination of decision block 506 is evaluated this time, update variables do exist, causing the logic to flow to a block 524 in which the interface (DXE API)

Art Unit: 2191

corresponding to a first update variable is called to update the firmware. Based on additional information contained in the variable data, the update is then performed via the API. In instances in which the update merely comprises updated configuration data that may be stored in the variable data, the update is effectuated by reading the updated configuration data and writing it to the firmware device corresponding to the update API. In instances in which the update requires a larger update image, the update image is read from the memory buffer identified by the Data parameter returned from a GetVariable call and written to an appropriate portion (memory address space) of the firmware device. In general, the location of the appropriate portion may be coded into the API itself, or may be obtained via the variable data. The foregoing process is repeated for each update variable until all of the update variables are processed in accordance with a decision block 526).

Regarding claim 9

Rothman et al teaches,

presenting the files found in the search to a user (column 8, lines 10-17, After DXE Core 300 is initialized, control is handed to DXE Dispatcher 302. The DXE Dispatcher is responsible for loading and invoking DXE drivers found in firmware volumes, which correspond to the logical storage units from which firmware is loaded under the EFI framework. The DXE dispatcher searches for drivers in the firmware volumes described by the HOB List. As execution continues, other firmware volumes might be located. When they are, the DXE dispatcher 302 searches them for drivers as well).

Regarding claims 13, 14, 31 and 32

Rothman et al teaches,

connection between the portable memory device and the second communication port is a direct connection (column 10, lines 7-19, in a block 504, an OOB monitor driver is installed in a protected area in each blade. As discussed above, an out-of-band communication channel or network that operates independent of network communications that are managed by the operating systems is employed to facilitate inter-blade communication in an OS-transparent manner. In one embodiment, OOB communications are facilitated by a hidden execution mode known as the System Management Mode (SMM), which has the ability to receive and respond to periodic System Management Interrupts (SMI) and execute corresponding SMI handlers configured to support inter-blade communication).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2191

Claim 17-21, 23, 29 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Rothman et al* USPN 7,222,339 in view of *Rao et al* USPN 6,978,453

Regarding claims 17-20, 23, 29 and 33

Rothman et al teaches,

Document stored in portable memory but does not teach explicitly printing at the imaging device a device upon successful verification of the authentication information. However, *Rao et al* teaches (column 6, lines 14-22, the update packages may be accompanied by a header that contains, among other entries, a cyclic redundancy check (CRC) value employed in the verification of the authenticity of the received update packages. The verification of received update packages may involve computing CRC values and comparing them to reference CRC values provided in a header that accompanies the update packages. Other forms of verification and authentication based on specific entries in the header are also contemplated). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to incorporate authentication and verification scheme. The modification would have been obvious because one of ordinary skill in the art would have been motivated to combine teaching into authenticate the update process while updating is in process to verification and configuration are done to achieve efficiency with updating firmware in secure environment.

Regarding claim 21

Rao et al teaches,

Art Unit: 2191

the configuration information stored on the portable memory device represents a user's configuration preferences (column 18, lines 5-15, An embodiment of the present invention may also provide an update package in a firmware updating service that comes up automatically during a power cycle/reboot. A SyncML DM command set enhancement that initiates a power cycling/reboot may be provided in an embodiment of the present invention. Another command enhancement may store a downloaded firmware update into an associated managed object. Yet another command enhancement may verify the authenticity of the firmware update package based on configurations and user profiles).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anil Khatri whose telephone number is 571-272-3725. The examiner can normally be reached on M-F 8:30-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Zhen can be reached on 571-272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2191

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


ANIL KHATRI
PRIMARY EXAMINER